

CLAIMS

1. An isolated polypeptide selected from the group consisting of:

(a) a polypeptide comprising an amino acid sequence which has at least 90% identity with a sequence selected from the group consisting of amino acids 25-959 of SEQ ID NO:26; amino acids 33-272 of SEQ ID NO:27; amino acids 26-315 of SEQ ID NO:28; amino acids 190-626 of SEQ ID NO:29; amino acids 25-534 of SEQ ID NO:30; amino acids 42-411 of SEQ ID NO:31; amino acids 31-212 of SEQ ID NO:32; amino acids 30-266 of SEQ ID NO:33; amino acids 27-768 of SEQ ID NO:34; amino acids 50-597 of SEQ ID NO:35; amino acids 30-246 of SEQ ID NO:36; amino acids 28-608 of SEQ ID NO:37; amino acids 26-251 of SEQ ID NO:38; amino acids 22-324 of SEQ ID NO:39; amino acids 30-214 of SEQ ID NO:40; amino acids 22-257 of SEQ ID NO:41; amino acids 25-1130 of SEQ ID NO:42; amino acids 42-248 of SEQ ID NO:43; amino acids 26-172 of SEQ ID NO:44; amino acids 31-242 of SEQ ID NO:45; amino acids 25-180 of SEQ ID NO:46; amino acids 26-477 of SEQ ID NO:47; amino acids 20-340 of SEQ ID NO:48; amino acids 30-341 of SEQ ID NO:49; and amino acids 30-399 of SEQ ID NO:50;

(b) a polypeptide which is encoded by a nucleotide sequence which hybridize under high stringency conditions with a polynucleotide selected from the group consisting of:

(i) the complementary strand of a nucleotide sequence selected from the group consisting of nucleotides 73-2877 of SEQ ID NO:1; nucleotides 97-816 of SEQ ID NO:2; nucleotides 76-945 of SEQ ID NO:3; nucleotides 568-1878 of SEQ ID NO:4; nucleotides 73-1599 of SEQ ID NO:5; nucleotides 124-1233 of SEQ ID NO:6; nucleotides 91-633 of SEQ ID NO:7; nucleotides 88-798 of SEQ ID NO:8; nucleotides 79-2304 of SEQ ID NO:9; nucleotides 148-1791 of SEQ ID NO:10; nucleotides 88-735 of SEQ ID NO:11; nucleotides 82-1824 of SEQ ID NO:12; nucleotides 76-750 of SEQ ID NO:13; nucleotides 64-972 of SEQ ID NO:14; nucleotides 88-642 of SEQ ID NO:15; nucleotides 64-771 of SEQ ID NO:16; nucleotides 73-3390 of SEQ ID NO:17; nucleotides 124-744 of SEQ ID NO:18; nucleotides 76-516 of SEQ ID NO:19; nucleotides 91-726 of SEQ ID NO:20; nucleotides 73-540 of SEQ ID NO:21; nucleotides 76-1431 of SEQ ID NO:22; nucleotides 58-1020 of SEQ ID NO:23; nucleotides 88-1023 of SEQ ID NO:24 and nucleotides 85-1197 of SEQ ID NO: 25;

(ii) the complementary strand to the cDNA sequence contained in a nucleotide sequences selected from the group of regions consisting of nucleotides 73-2877 of SEQ ID NO: 1; nucleotides 97-816 of SEQ ID NO:2; nucleotides 76-945 of SEQ ID NO:3; nucleotides 568-1878 of SEQ ID NO:4; nucleotides 73-1599 of SEQ ID NO:5; nucleotides 124-1233 of SEQ ID NO:6; nucleotides 91-633 of SEQ ID NO:7; nucleotides 88-798 of SEQ ID NO:8; nucleotides 79-2304 of SEQ ID NO:9; nucleotides 148-1791 of SEQ ID NO:10; nucleotides 88-735 of SEQ ID NO:11; nucleotides 82-1824 of SEQ ID NO:12; nucleotides 76-750 of SEQ ID NO:13; nucleotides 64-972 of SEQ ID NO:14; nucleotides 88-642 of SEQ ID NO:15; nucleotides 64-771 of SEQ ID NO:16; nucleotides 73-3390 of SEQ ID NO:17; nucleotides 124-744 of SEQ ID NO:18; nucleotides 76-516 of SEQ ID NO:19; nucleotides 91-726 of SEQ ID NO:20; nucleotides 73-540 of SEQ ID NO:21; nucleotides 76-1431 of SEQ ID NO:22; nucleotides 58-1020 of SEQ ID NO:23; nucleotides 88-1023 of SEQ ID NO:24 and nucleotides 85-1197 of SEQ ID NO: 25.

2. The polypeptide of claim 1, wherein the polypeptide is an enzyme selected from the group consisting of a polypeptide having an amino acid sequence which has at least 95% identity with an amino acid sequence selected from the group consisting of amino acids 25-959 of SEQ ID NO:26; 33-272 of SEQ ID NO:27; amino acids 26-315 SEQ ID NO:28; amino acids 190-626 of SEQ ID NO:29; amino acids 25-534 of SEQ ID NO:30; amino acids 42-411 of SEQ ID NO:31; amino acids 31-212 of SEQ ID NO:32; amino acids 30-266 of SEQ ID NO:33; amino acids 27-768 of SEQ ID NO:34; amino acids 50-597 of SEQ ID NO:35; amino acids 30-246 of SEQ ID NO:36; amino acids 28-608 of SEQ ID NO:37; amino acids 26-251 of SEQ ID NO:38; amino acids 22-324 of SEQ ID NO:39; amino acids 30-214 of SEQ ID NO:40; amino acids 22-257 of SEQ ID NO:41; amino acids 25-1130 of SEQ ID NO:42; amino acids 42-248 of SEQ ID NO:43; amino acids 26-172 of SEQ ID NO:44; amino acids 31-242 of SEQ ID NO:45; amino acids 25-180 of SEQ ID NO:46; amino acids 26-477 of SEQ ID NO:47; amino acids 20-340 of SEQ ID NO:48; amino acids 30-341 of SEQ ID NO:49; and amino acids 30-399 of SEQ ID NO:50.

3. The polypeptide of claim 2, wherein the polypeptide is an enzyme selected from the group consisting of a polypeptide which is encoded by a nucleotide sequence which hybridize under very high stringency conditions with a polynucleotide selected from the group consisting of

(i) the complementary strand to a nucleotide sequence selected from the group of regions consisting of nucleotides 73-2877 of SEQ ID NO:1; nucleotides 97-816 of SEQ ID NO:2; nucleotides 76-945 of SEQ ID NO:3; nucleotides 568-1878 of SEQ ID NO:4; nucleotides 73-1599 of SEQ ID NO:5; nucleotides 124-1233 of SEQ ID NO:6; nucleotides 91-633 of SEQ ID NO:7; nucleotides 88-798 of SEQ ID NO:8; nucleotides 79-2304 of SEQ ID NO:9; nucleotides 148-1791 of SEQ ID NO:10; nucleotides 88-735 of SEQ ID NO:11; nucleotides 82-1824 of SEQ ID NO:12; nucleotides 76-750 of SEQ ID NO:13; nucleotides 64-972 of SEQ ID NO:14; nucleotides 88-642 of SEQ ID NO:15; nucleotides 64-771 of SEQ ID NO:16; nucleotides 73-3390 of SEQ ID NO:17; nucleotides 124-744 of SEQ ID NO:18; nucleotides 76-516 of SEQ ID NO:19; nucleotides 91-726 of SEQ ID NO:20; nucleotides 73-540 of SEQ ID NO:21; nucleotides 76-1431 of SEQ ID NO:22; nucleotides 58-1020 of SEQ ID NO:23; nucleotides 88-1023 of SEQ ID NO:24 and nucleotides 85-1197 of SEQ ID NO: 25; and

(ii) the complementary strand to the cDNA sequence contained in a nucleotide sequences selected from the group of regions consisting of nucleotides 73-2877 of SEQ ID NO: 1; nucleotides 97-816 of SEQ ID NO:2; nucleotides 76-945 of SEQ ID NO:3; nucleotides 568-1878 of SEQ ID NO:4; nucleotides 73-1599 of SEQ ID NO:5; nucleotides 124-1233 of SEQ ID NO:6; nucleotides 91-633 of SEQ ID NO:7; nucleotides 88-798 of SEQ ID NO:8; nucleotides 79-2304 of SEQ ID NO:9; nucleotides 148-1791 of SEQ ID NO:10; nucleotides 88-735 of SEQ ID NO:11; nucleotides 82-1824 of SEQ ID NO:12; nucleotides 76-750 of SEQ ID NO:13; nucleotides 64-972 of SEQ ID NO:14; nucleotides 88-642 of SEQ ID NO:15; nucleotides 64-771 of SEQ ID NO:16; nucleotides 73-3390 of SEQ ID NO:17; nucleotides 124-744 of SEQ ID NO:18; nucleotides 76-516 of SEQ ID NO:19; nucleotides 91-726 of SEQ ID NO:20; nucleotides 73-540 of SEQ ID NO:21; nucleotides 76-1431 of SEQ ID NO:22; nucleotides 58-1020 of SEQ ID NO:23; nucleotides 88-1023 of SEQ ID NO:24 and nucleotides 85-1197 of SEQ ID NO: 25.

4. The polypeptide of claim 1, wherein the polynucleotide encoding the polypeptide consists of a polypeptide selected from the group consisting of amino acids 25-959 of SEQ ID NO:26; 33-272 of SEQ ID NO:27; amino acids 26-315 SEQ ID NO:28; amino acids 190-626 of SEQ ID NO:29; amino acids 25-534 of SEQ ID NO:30; amino acids 42-411 of SEQ ID NO:31;

amino acids 31-212 of SEQ ID NO:32; amino acids 30-266 of SEQ ID NO:33; amino acids 27-768 of SEQ ID NO:34; amino acids 50-597 of SEQ ID NO:35; amino acids 30-246 of SEQ ID NO:36; amino acids 28-608 of SEQ ID NO:37; amino acids 26-251 of SEQ ID NO:38; amino acids 22-324 of SEQ ID NO:39; amino acids 30-214 of SEQ ID NO:40; amino acids 22-257 of SEQ ID NO:41; amino acids 25-1130 of SEQ ID NO:42; amino acids 42-248 of SEQ ID NO:43; amino acids 26-172 of SEQ ID NO:44; amino acids 31-242 of SEQ ID NO:45; amino acids 25-180 of SEQ ID NO:46; amino acids 26-477 of SEQ ID NO:47; amino acids 20-340 of SEQ ID NO:48; amino acids 30-341 of SEQ ID NO:49; and amino acids 30-399 of SEQ ID NO:50.

5 5. The polypeptide of claim 1, wherein the polypeptide is an acid cellulase comprising amino acids 25-959 of SEQ ID NO:26.

6. The polypeptide of claim 1, wherein the polypeptide is an acid cellulase consisting of amino acids 25-959 of SEQ ID NO:26.

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7. The polypeptide of claim 1, wherein the polypeptides is an aspartyl protease comprising amino acids 33 to 272 of SEQ ID NO: 27.

8. The polypeptide of claim 1, wherein the polypeptides is an aspartyl protease consisting of amino acids 33 to 272 of SEQ ID NO: 27.

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9. The polypeptide of claim 1, wherein the polypeptide is a multi copper oxidase comprising amino acids 26 to 315 of SEQ ID NO: 28.

25 10. The polypeptide of claim 1, wherein the polypeptide is a multi copper oxidase consisting of amino acids 26 to 315 of SEQ ID NO: 28.

11. The polypeptide of claim 1, wherein the polypeptide is a multi copper oxidase comprising amino acids 50 to 597 of SEQ ID NO: 35.

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12. The polypeptide of claim 1, wherein the polypeptide is a multi copper oxidase consisting of amino acids 50 to 597 of SEQ ID NO: 35.

13. The polypeptide of claim 1, wherein the polypeptide is a protease comprising amino acids 190 to 626 of SEQ ID NO: 29.

14. The polypeptide of claim 1, wherein the polypeptide is a protease consisting of amino acids 190 to 626 of SEQ ID NO: 29.

15. The polypeptide of claim 1, wherein the polypeptide is a protease comprising amino acids 25 to 533 of SEQ ID NO: 30.

16. The polypeptide of claim 1, wherein the polypeptide is a protease consisting of amino acids 25 to 533 of SEQ ID NO: 30.

17. The polypeptide of claim 1, wherein the polypeptide is a protease comprising amino acids 42 to 411 of SEQ ID NO: 31.

18. The polypeptide of claim 1, wherein the polypeptide is a protease consisting of amino acids 42 to 411 of SEQ ID NO: 31.

19. The polypeptide of claim 1, wherein the polypeptide is a disulfide isomerase comprising amino acids 42 to 411 of SEQ ID NO: 32.

20. The polypeptide of claim 1, wherein the polypeptide is a disulfide isomerase consisting of amino acids 42 to 411 of SEQ ID NO: 32.

21. The polypeptide of claim 1, wherein the polypeptide is a gamma-D-glutamyl-L-diamino acid comprising amino acids 30 to 266 of SEQ ID NO: 33.

22. The polypeptide of claim 1, wherein the polypeptide is a gamma-D-glutamyl-L-diamino acid consisting of amino acids 30 to 266 of SEQ ID NO: 33.

23. The polypeptide of claim 1, wherein the polypeptide is an endo-beta-N-acetylglucosaminidase comprising amino acids 27 to 768 of SEQ ID NO: 34.

24. The polypeptide of claim 1, wherein the polypeptide is an endo-beta-N-acetylglucosaminidase consisting of amino acids 27 to 768 of SEQ ID NO: 34.

25. The polypeptide of claim 1, wherein the polypeptide is a peptidyl-prolyl-isomerase comprising amino acids 30 to 246 of SEQ ID NO: 36.

26. The polypeptide of claim 1, wherein the polypeptide is a peptidyl-prolyl-isomerase consisting of amino acids 30 to 246 of SEQ ID NO: 36.

27. A polynucleotide comprising a nucleotide sequence which encodes for the polypeptide defined in claim 1.

28. A nucleic acid construct comprising the nucleotide sequence defined in claim 27 operably linked to one or more control sequences that direct the production of the polypeptide in a host cell.

29. A recombinant expression vector comprising the nucleic acid construct of claim 28.

30. A recombinant host cell comprising the nucleic acid construct of claim 28.

31. A method for producing the polypeptide of claim 1 comprising:

- (a) cultivating a strain, which in its wild-type form is capable of producing the polypeptide, to produce the polypeptide; and
- (b) recovering the polypeptide.

32. A method for producing a polypeptide of claim 1 comprising:

- (a) cultivating a recombinant host cell as defined in claim 30 under conditions conducive for production of the polypeptide; and
- (b) recovering the polypeptide.

33. A composition comprising the polypeptide of claim 1 and an excipient.

34. A method for preparing a composition of claim 33 comprising admixing the polypeptide of claim 1 with the excipient.

35. A storage medium suitable for use in an electronic device comprising information of the amino acid sequence of the polypeptide of claim 1.

5 36. An isolated polypeptide comprising an amino acid sequence which has at least 90% identity with an amino acid sequence comprising amino acids 42-248 of SEQ ID NO:43 or which is encoded by a nucleotide sequence which hybridize under high stringency conditions with the complementary strand of a nucleotide sequence comprising nucleotides 124-744 of SEQ ID NO:18.

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37. The isolated polypeptide of claim 36 comprising an amino acid sequence which has at least 90% identity with a sequence comprising amino acids 42-248 of SEQ ID NO:43.

15 38. The isolated polypeptide of claim 36 comprising an amino acid sequence which has at least 95% identity with a sequence comprising amino acids 42-248 of SEQ ID NO:43.

39. The isolated polypeptide of claim 36 comprising an amino acid sequence which is encoded by a nucleotide sequence which hybridize under high stringency conditions with the complementary strand of a nucleotide sequence comprising 124-744 of SEQ ID NO:18.

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40. The isolated polypeptide of claim 36 comprising an amino acid sequence which is encoded by a nucleotide sequence which hybridize under very high stringency conditions with the complementary strand of a nucleotide sequence comprising 124-744 of SEQ ID NO:18.